

ABSTRACT OF THE INVENTION

A fuel pump, of which sliding mechanism parts in its fuel chamber have good wear resistance under a severe environment, and a direct fuel injection engine using the fuel pump are provided.

In a fuel pump for pressurizing and delivering fuel to a fuel injector of a vehicle engine, at least one of sliding surfaces of a slant plate, a slipper and a plunger sliding in a lubricating oil and at least one of sliding surfaces of sliding members of a plunger and a cylinder contacting with and sliding on each other through the fuel are formed of a hardened layer composed of any one of a nitrided layer, a carburization quenched layer and a carbonitrided layer, or coated with a high corrosion resistant and hard metal compound layer over the hardened layer.